

Fig. 1

Prior Art FX Settlement Process

Trade Date	Settlement Date	Reconciliation Date
•Parties transact a series of transactions in various currency pairs	•Branch or nostro constructs payment queue	•MT950s from all branches and nostros reconciled to match payment and counterpayment (receipt) settlement of transactions 1/20
•Parties send confirmations of each trade MT300	•Branch or nostro releases payments as liquidity in local payment system allows	•Exception report of failed settlements generated
•Parties match MT300s to create a confirmed trade	•Branch or nostro sends MT900 to confirm payments	•Failed settlements queried with counterparties
•Parties instruct payment of sold currency leg for each trade	•Branch or nostro sends MT910 to confirm receipts	•Decisions on default/payment suspension taken after investigation
•Parties pre-advice receipt of bought currency leg for each trade	•Branch or nostro sends MT950 daily statement of account activity	•Payments at branches and nostros cancelled on a "best efforts" basis

Risk

- PAYMENT RISK** = The risk of losing the amount of payment in the event of failed counterpayment (non-receipt)
- Liquidity Risk** = The cost or penalty associated with unanticipated receipt shortfalls
- Systemic Risk** = Risk associated with the general health or structure of the financial system as a result of inability to cope with a financial default or liquidity shock

Fig. 3

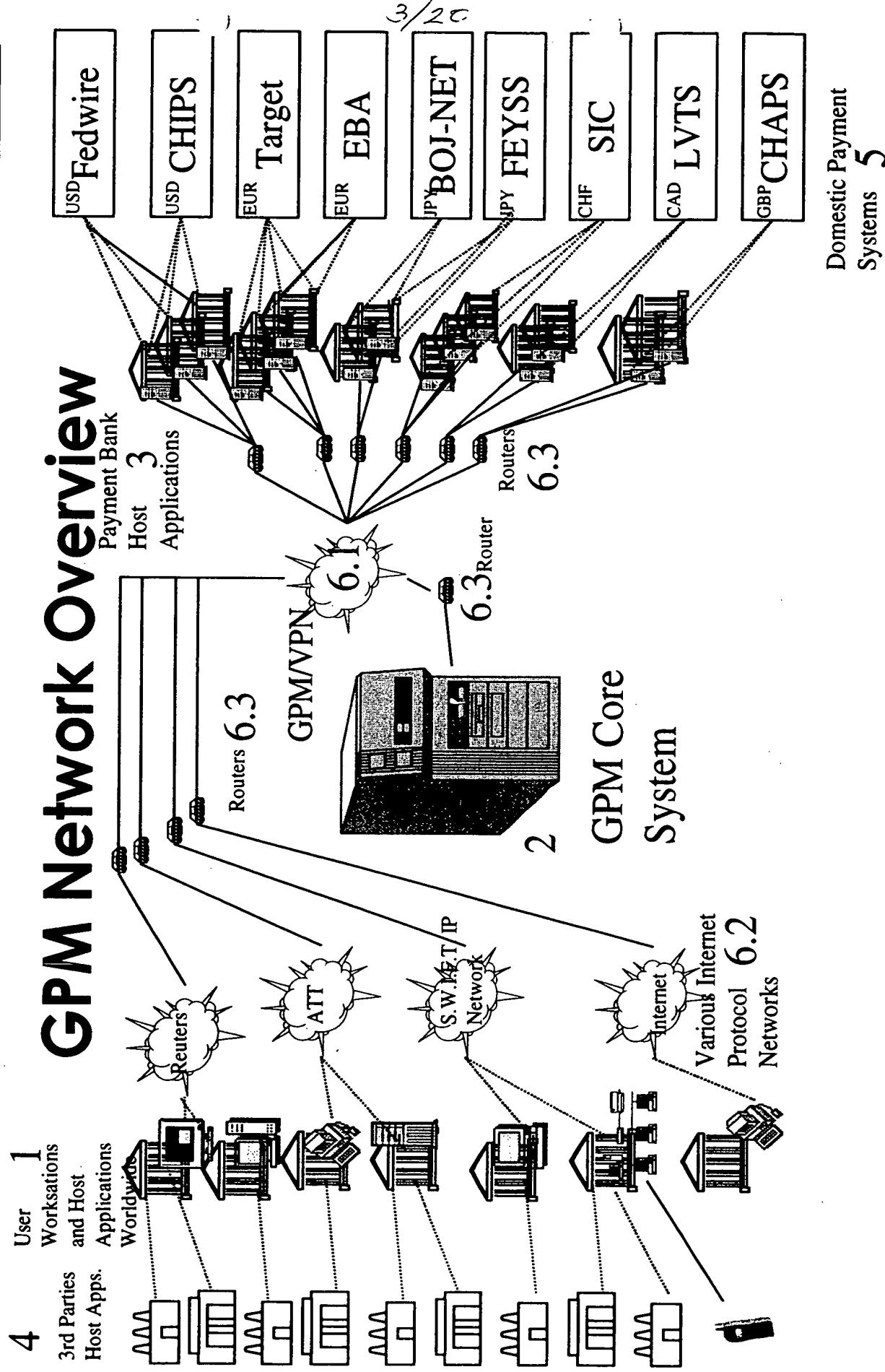


Fig. 4

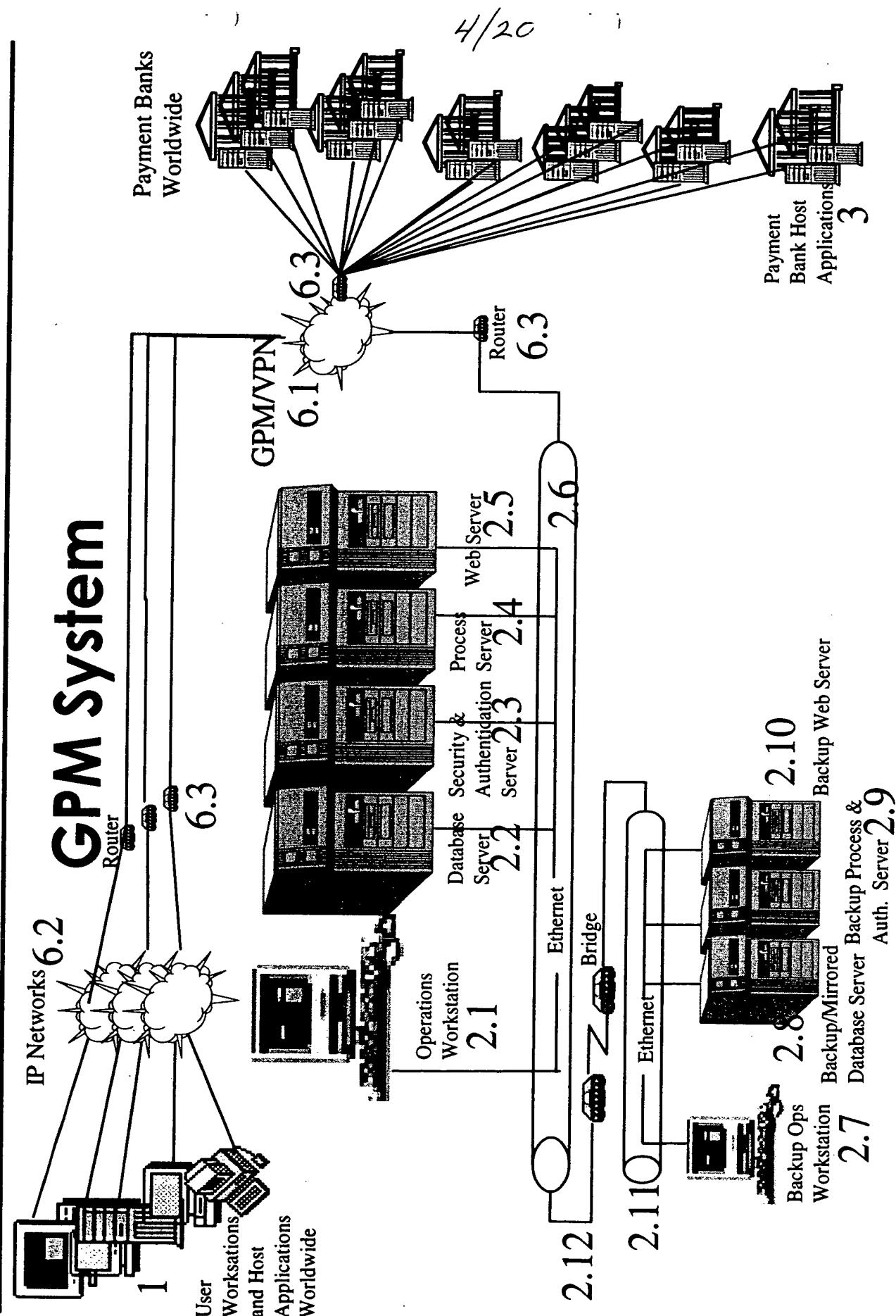
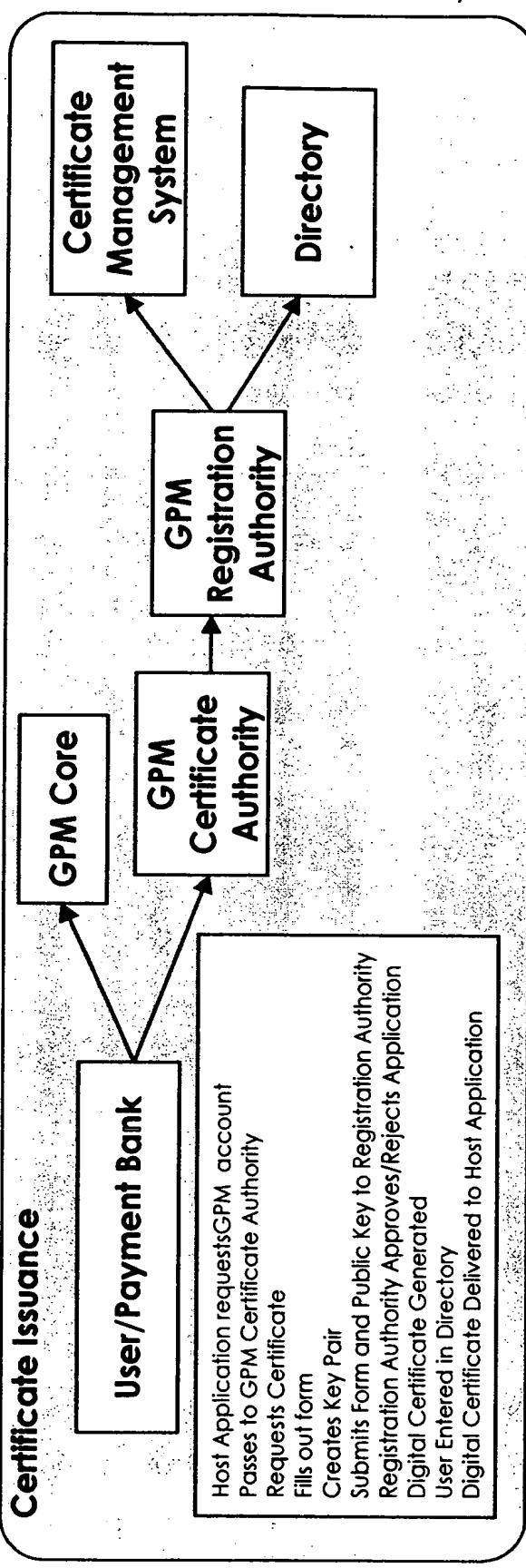


Fig. 5

GPM Access Security

Certificate Issuance



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Certificate Usage

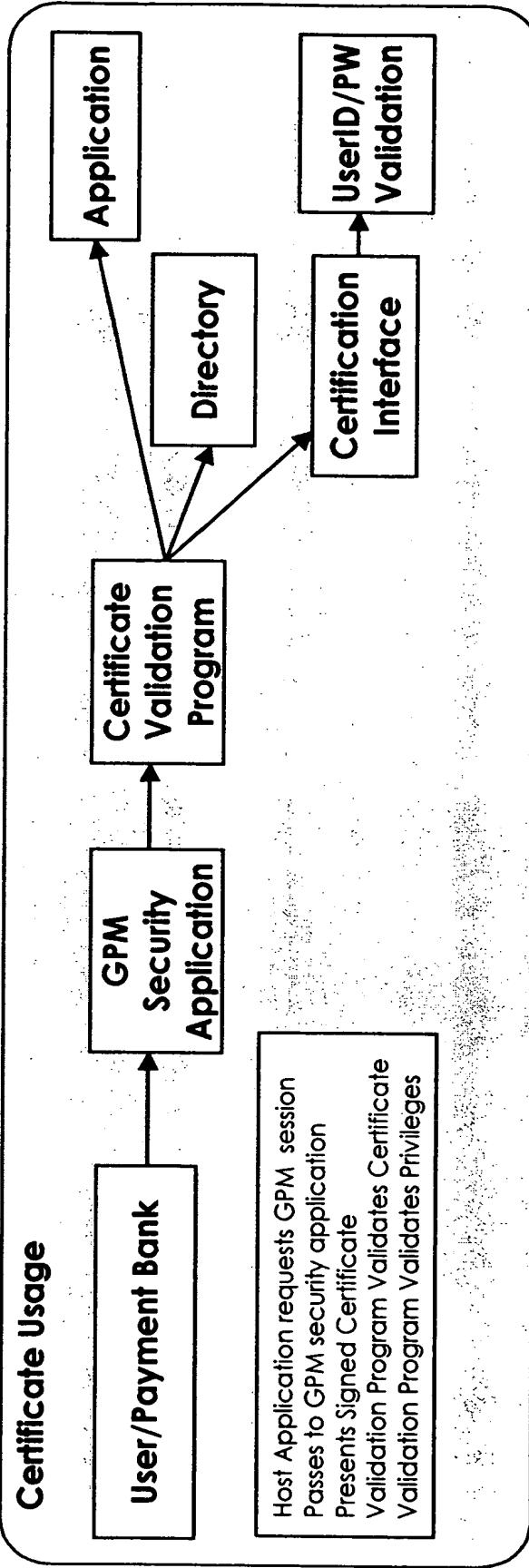


Fig. 6

GPM FX Settlement Process

Trade Date	Settlement Date	Reconciliation Date
•Parties transact a series of transactions in various currency pairs	•Payment Bank constructs payment queue	•MT950s from all branches and nostros reconciled to determine settlement of transactions
•Parties send confirmations of each trade MT300	•Payment Bank Host Application releases payments through GPM Filter Process	•Follow-up on individual failed settlements / defaults
•Parties match MT300s to create a confirmed trade	•Payment Bank sends MT900 to confirm payments and MT910 to confirm receipts	
•Parties instruct payment of sold currency leg for each trade to Payment Bank		
•Parties pre-advice receipt of bought currency leg for each trade	•Payment Bank Host App. notifies sustained imbalance as observed	
•Parties advise GPM Payment Banks of Risk Parameters	•Exception queries, Suspend Process and liquidity management decisions taken intraday	
	•Payment Bank sends MT950 daily statement of account activity	

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Fig. 7

GPM Flow Diagram

PAYMENT BANK (3)

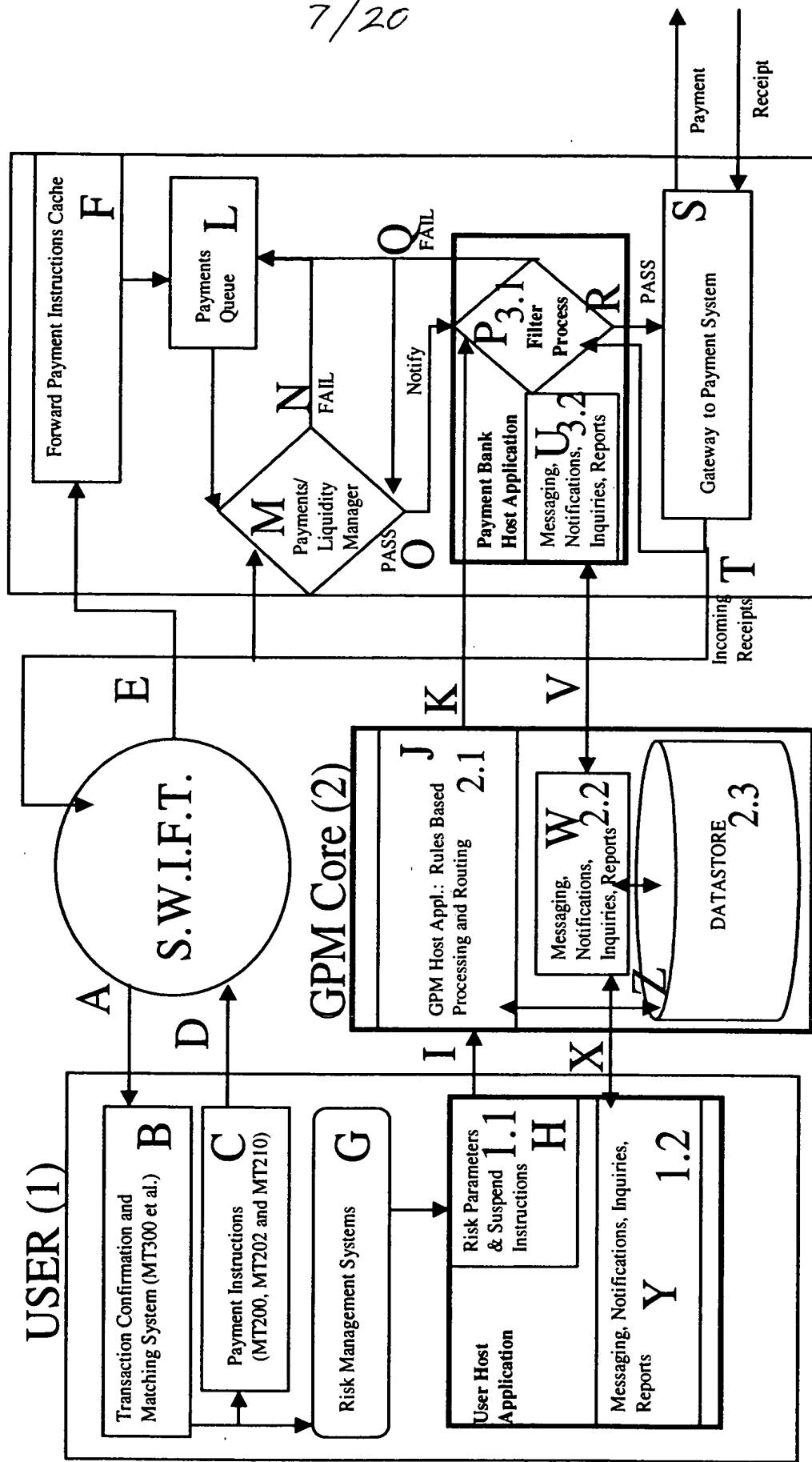


Fig. 8

GPM in Action

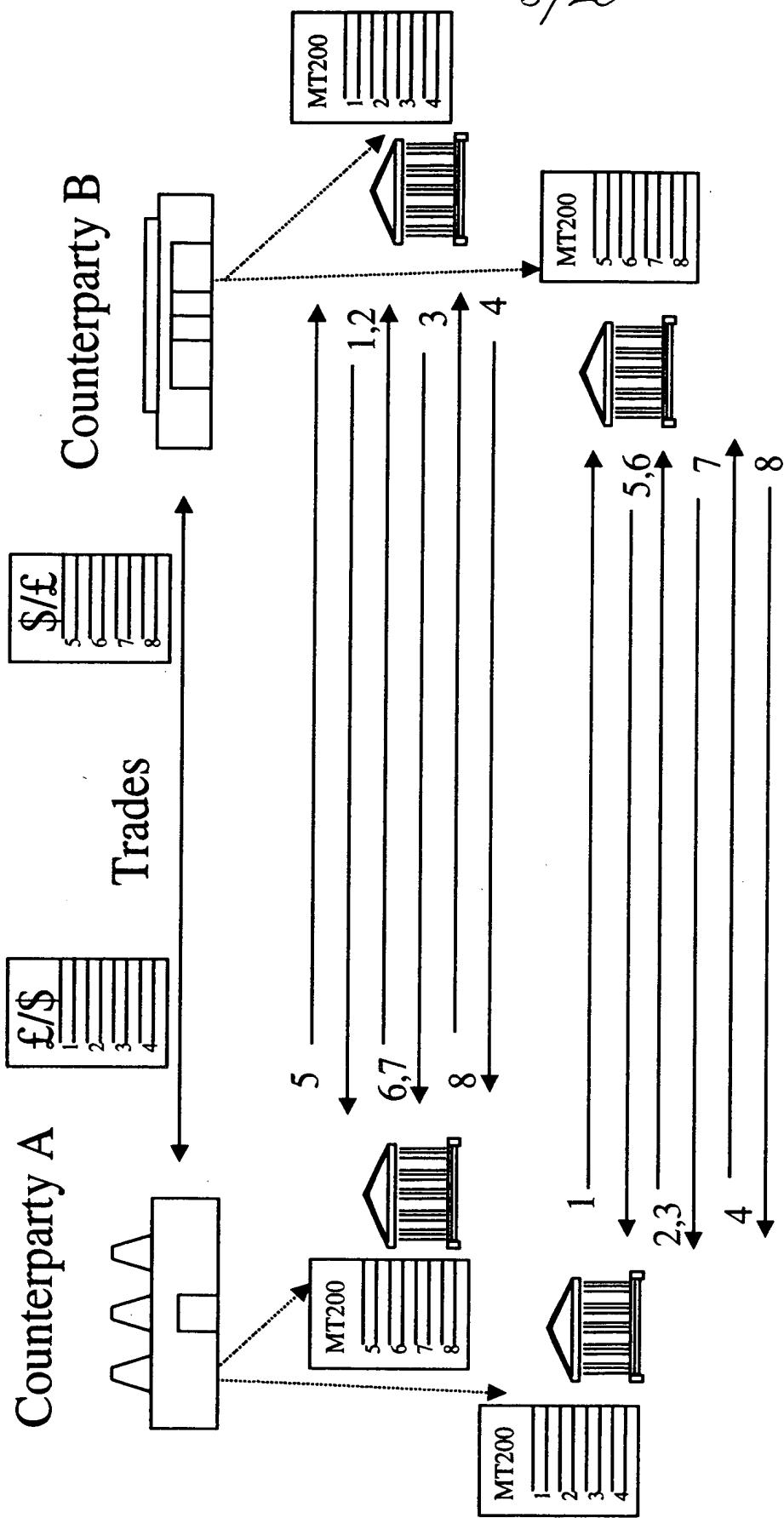


Fig. 9A1

Risk Parameter Instruction Process

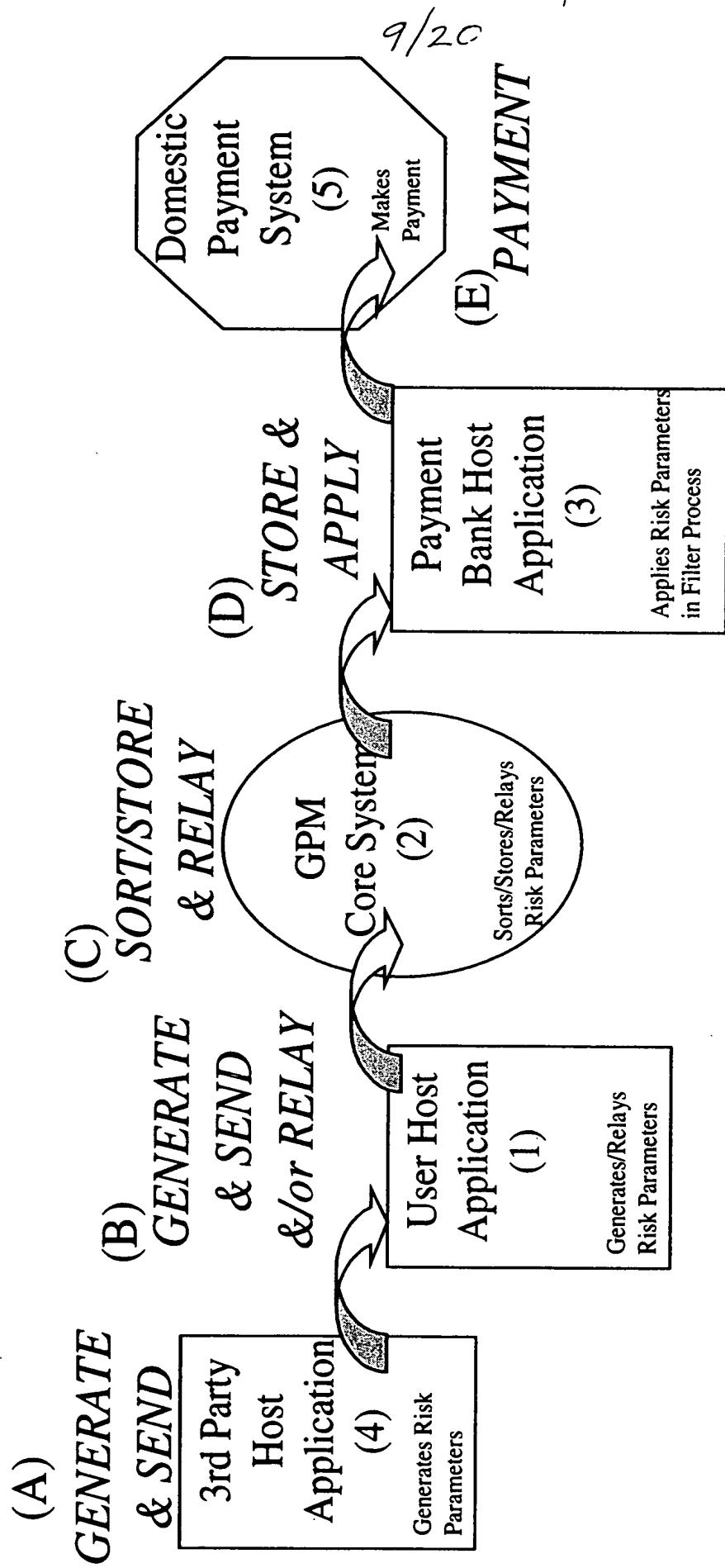


Fig. 9A2

Risk Parameter Instruction Fields

Status	Tag	Field Name	Content/Options	No
M	52a	USER		
O	50	THIRD PARTY (Ordering Customer)	4a2a2b[3b]	1
M	53a	PAYMENT BANK (Sender's Correspondent)	4a2a2b[3b]	2
----->			4a2a2b[3b]	3
M	59	COUNTERPARTY (Beneficiary Customer)	4a2a2b[3b]	4
----->				
M	32A	CLEAN PAYMENT LIMIT [Value Date]		5
		Currency Code	[6n]	
		Amount	3a	
----->			15d	
O	<XX>	PAYMENT TYPE	<2a3n(4a)>	6
----->				

FIELD 52A - USER
Definition: The Unique Identifier (UID) of the User institution initiating the instruction on behalf of itself or a Third Party.
Format: 4a2a2b[3b]

FIELD 50 - THIRD PARTY
Definition: The UID of the Third Party initiating the instruction to the User.
Format: 4a2a2b[12b]

FIELD 53a - PAYMENT BANK
Definition: The BIC code of the Payment Bank
Format: 4a2a2b[12b]

FIELD 59 - COUNTERPARTY
Definition: The UID of the Counterparty/Payee on outgoing payments instructions.
Format: 4a2a2b[2b]
 Multiple instances of this field are permitted.

FIELD 32a - CLEAN PAYMENT LIMIT
Definition: [Value date] (optional), currency code and amount of Clean Payment Limit.
Format:

- [6n] date (YMMDD)
- 3a currency code
- 15d amount

FIELD XX - PAYMENT TYPE
Definition: Descriptor(s) of Payment Types for Filter Process
Format: 2a3n(4a) (e.g., MT200, MT202, etc.) plus optional channel identification
 Where this optional field is left blank, the GPM Filter Process will apply to all payments made on behalf of a referenced User/3rd Party to a referenced Counterparty. Multiple instances of this field are permitted.

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Risk Parameters

COUNTERPARTY: A defined entity (or aggregation of entities) recognisable as Payee(s) or Payor(s) on a payment message through reference to industry standard identifiers used in payments messaging.

CLEAN PAYMENT LIMIT: Value threshold on payments from a User/3rd Party as “Payor” in respect of a designated Counterparty as “Payee”. Acts as a debit cap on payments vis-à-vis a Counterparty.

PAYMENT TYPE: Given payment type descriptors (specified in payments message standards), allows selection of payment types for subjecting to the Filter Process.

Fig. 9C

PAYMENT BANK APPLICATION INTEGRATION

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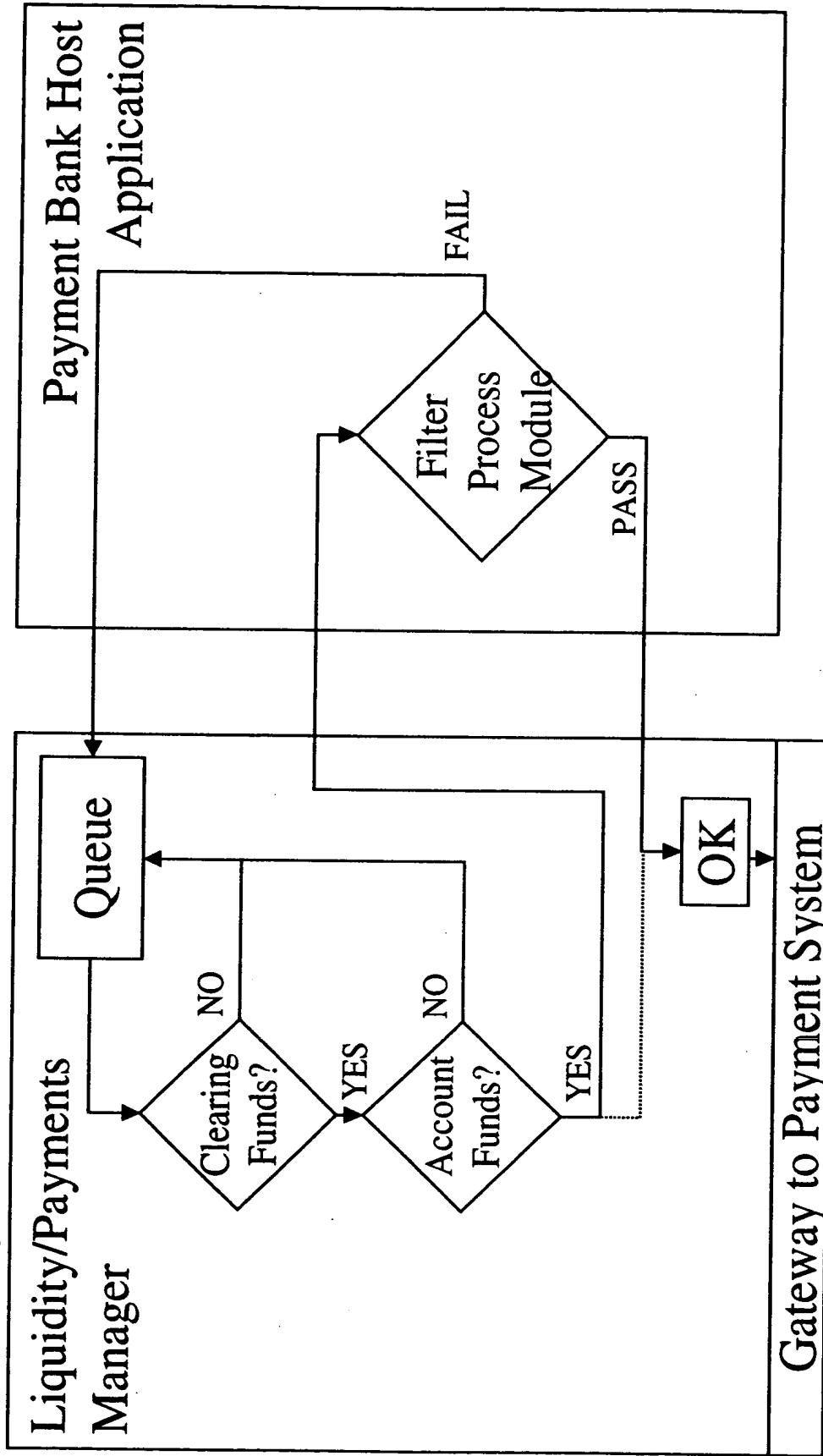


Fig. 9D1

GPM Filter Process

- Step A: Identify Payor
- Step B: Assess whether Payor is GPM User/3rd Party
If NO then PASS payment instruction; If YES then
- Step C: Identify Payee
- Step D: Identify whether Payee is a GPM Counterparty
If NO then PASS payment instruction; If YES then
- Step E: Check whether Payee/Counterparty has been Suspended
If YES then FAIL payment instruction + NOTIFY; If NO then
- Step F: Identify Payment Type
- Step G: Assess whether Payment Type is selected for GPM Filter Process
If NO then PASS payment instruction; If YES then
- Step H: Identify Payment Amount
- Step I: Calculate Available Balance
- Step J: Assess payment amount against Available Balance
If payment amount is less than Available Balance then PASS payment instruction; If payment amount is more than Available Balance then FAIL payment instruction + NOTIFY
- Step K: Reduce Available Balance by Payment Amount

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Fig. 9D2

GPM Filter Process

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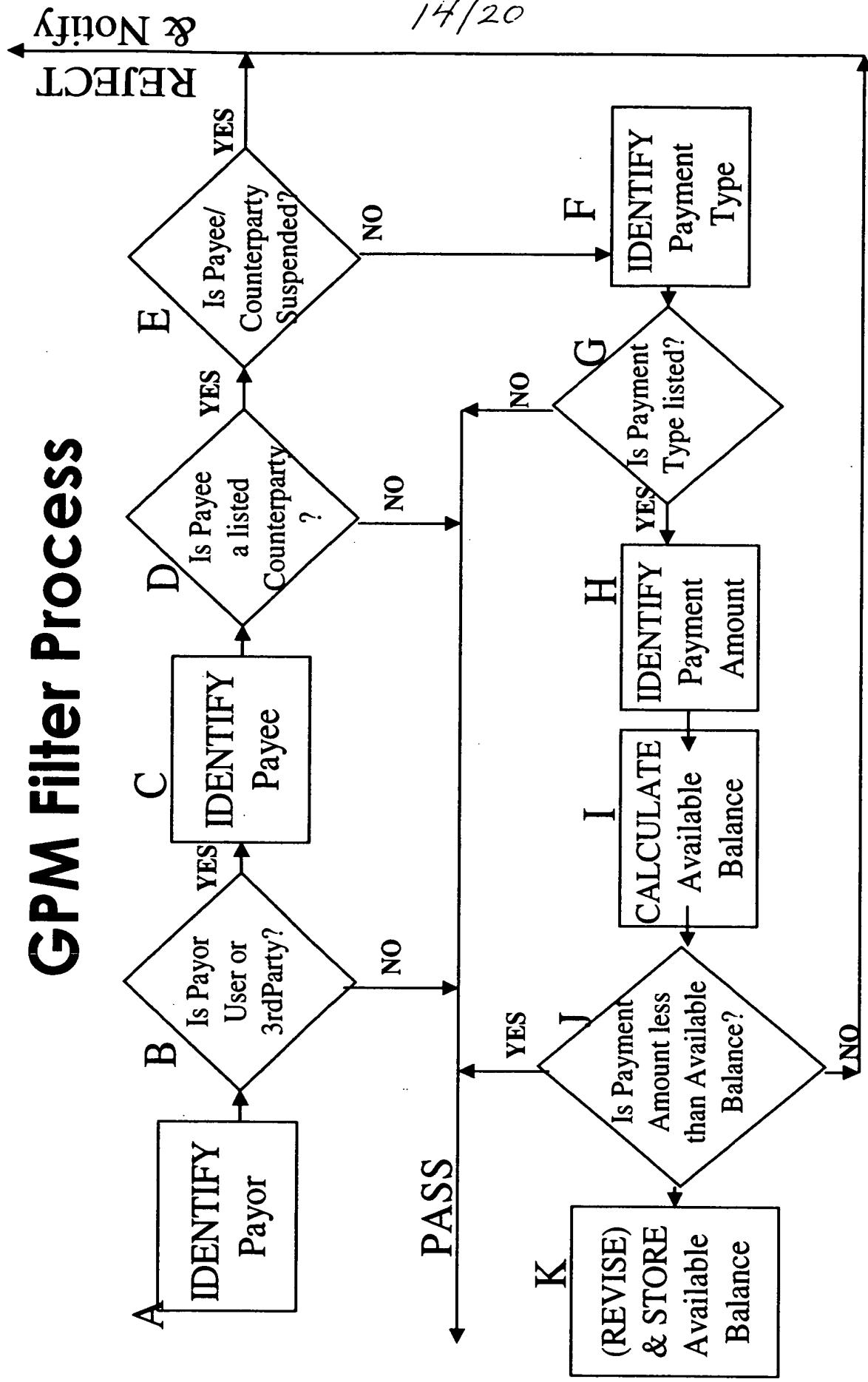


Fig. 9E1

Step I: Calculating Available Balance

Step I.1: Identify User/3rd Party

Step I.2: Identify Counterparty

Step I.3: Identify last stored Available Balance

3a: Available Balance will be Clean Payment Limit for initial processing

3b: Available Balance last stored by Process Filter

3c: Where Clean Payment Limit is amended intraday, the difference between the new CPL and the old CPL will be added to the stored Available Balance to either increase or decrease the Available Balance accordingly

Step I.4: Generate Inquiry to bank payment/account systems for incoming payments messages specifying Counterparty/Payee as a “Payor” and specifying User/3rd Party as “Payee” since last timestamp

Step I.5: IF payments received, THEN total all payment amounts specified in all received payments

Step I.6: Add all received amounts to the last calculated Available Balance

Step I.7: Store & Forward (revised) Available Balance to Filter Process

Fig. 9E2

Step I: Calculating Available Balance

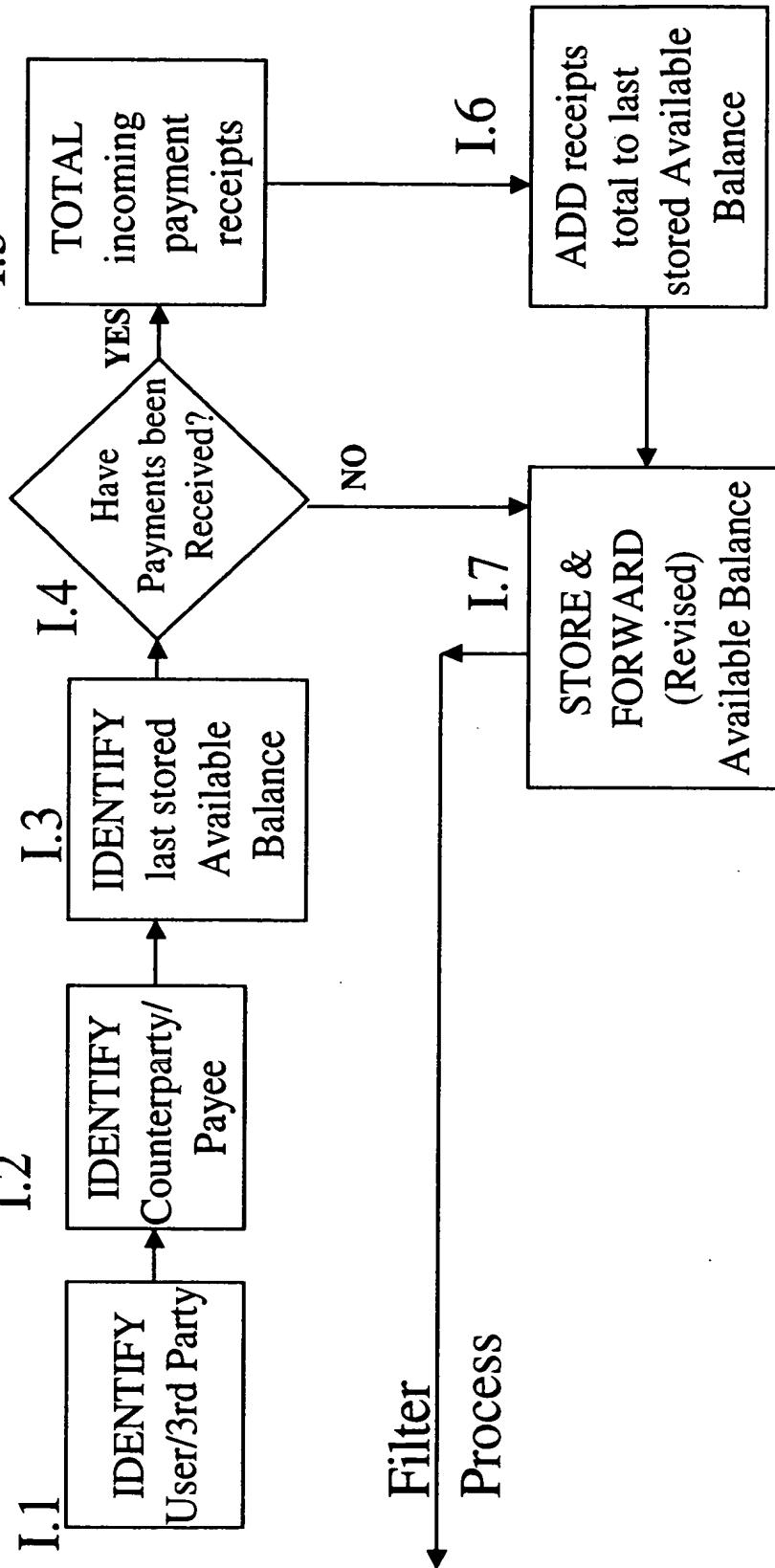


Fig. 9F1

GPM Suspend Process

Generate & Send

(A)

Sort & Store & Relay

(B)

Generate & Send &/or Relay

(C)

GPM Core System

Store & Apply

Domestic Payment System

Payment Bank Host Application

Sorts/Stores/Relays Suspend

User Host Application

Generate Suspend Counterparty & Currency(ies)

Confirm
(F)

Generates/Relays Suspend Counterparty & Currency(ies)

Confirm
(E)

Applies Suspend in Filter Process

Confirm
(D)

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Fig. 9F2

Suspend Instruction Fields

Status	Tag	Field Name	Content/Options	No
M	52a	USER	4a2a2b[3b]	1
O	50	THIRD PARTY (Ordering Customer)	4a2a2b[3b]	2
M	53a	PAYMENT BANK (Sender's Correspondent)	4a2a2b[3b]	3
---->				
M	59	COUNTERPARTY (Beneficiary Customer)	4a2a2b[3b]	4

M	<XX>	SUSPEND INSTRUCTION	7a	5

FIELD 52A - USER

Definition: The Unique Identifier (UID) of the User institution initiating the instruction on behalf of itself or a Third Party.

Format: 4a2a2b[3b]

FIELD 50 - THIRD PARTY

Definition: The UID of the Third Party initiating the instruction to the User.

Format: 4a2a2b[3b]

FIELD 53a - PAYMENT BANK

Definition: The BIC code of the Payment Bank

Format: 4a2a2b[3b]

FIELD 59 - COUNTERPARTY

Definition: The UID of the Counterparty/Payee on outgoing payments instructions.

Format: 4a2a2b[3b]

The message structure allows for multiple Counterparties to be listed, as many Users and Third Parties will want to aggregate affiliated market trading entities as a single, "synthetic counterparty" for payments risk management purposes.

FIELD XX - SUSPEND INSTRUCTION

Definition: Suspends payments in Filter Process

Format: 7a (e.g., "suspend")

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Fig. 9F3

GPM Suspend Process

3rd PARTY/USER HOST APPLICATION

Step A.1: Select Counterparty

Step A.2: Select Currency(ies)

Step A.3: Select Suspend Instruction

Step A.4: Generate Suspend Instruction

Step A.5: Confirm Suspend Instruction

GPM CORE SYSTEM APPLICATION

Step B.1: Receive Suspend Instruction

Step B.2: Identify Payment Bank(s) for
selected Currency(ies)

Step B.3: Send Suspend Instruction to
Payment Bank Host Applications

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Step C.1: Receive Suspend Instruction

Step C.2: Apply SUSPEND in Step 5 of
Filter Process

Step E: Confirm Suspend Instruction
Implemented

Step F: Receive Confirmation
Suspend Instruction Implemented

Step D: Confirm Suspend Instruction
Implemented

Fig. 10

GPM Risk Reduction

- Clear limits on Payment Risk and Liquidity Risk
- Effective elimination of Systemic Risk
- No disruption to existing payment mechanisms
- Unilateral choice of Risk Parameters and GPM implementation with counterparty

